

STABLE POWER CONVERSION CIRCUITS

ABSTRACT OF THE DISCLOSURE

A power conversion circuit having balancing switches that are actively driven to balance energy in a no-load condition. In some configurations, a current section of the power conversion circuit has switched inductors. The switched conductors are configured to produce a boosted output voltage from a voltage source when the current section is operated in a forward direction. A transformer of the power conversion circuit has a primary winding electrically coupled to the boosted output voltage and a secondary winding. A voltage section of the power conversion circuit is electrically coupled to the secondary winding and is configured to electrically couple to a load. The voltage section includes a plurality of balancing switches that are configured to be actively driven. The balancing switches are configured so that, when they are actively driven, a DC voltage can be provided to the load. In addition, the driving of the balancing switches balances energy between the current section and the voltage section when the power conversion circuit is in a no-load condition and operated in the forward direction.